May 2nd, 10:30 AM - 12:00 PM

Responding to Sea Level Rise Risks in a Vulnerable Community

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Sea Level Rise
Olympia's Response

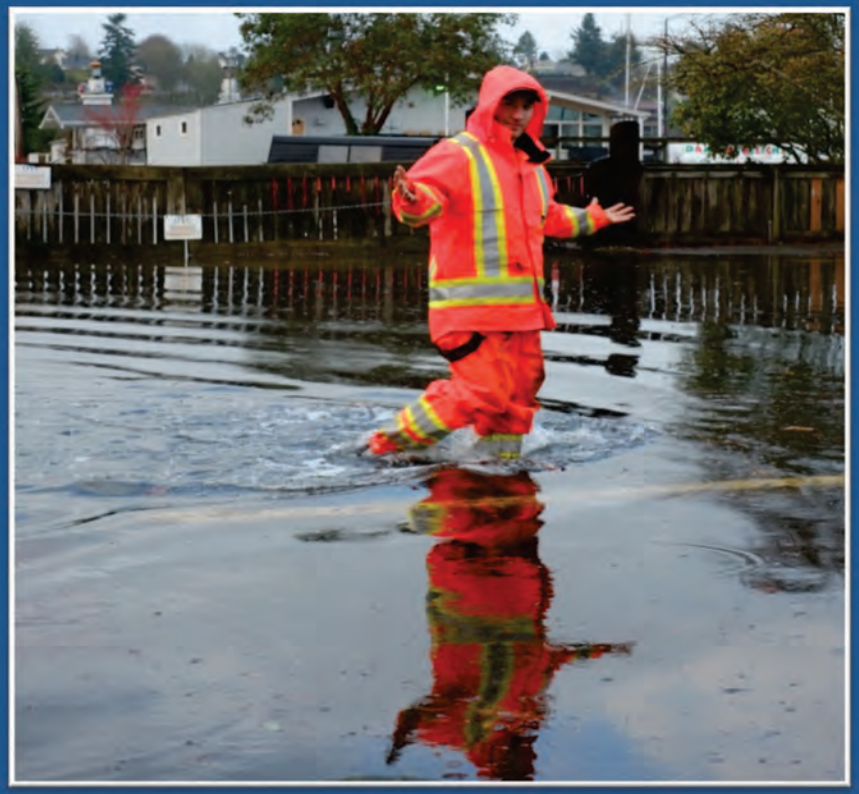
CITY OF OLYMPIA, PUBLIC WORKS DEPARTMENT

WATER RESOURCES

MAY, 2014

Downtown is Vulnerable…

Unique Tide Event - December, 2012



Evolving Responses

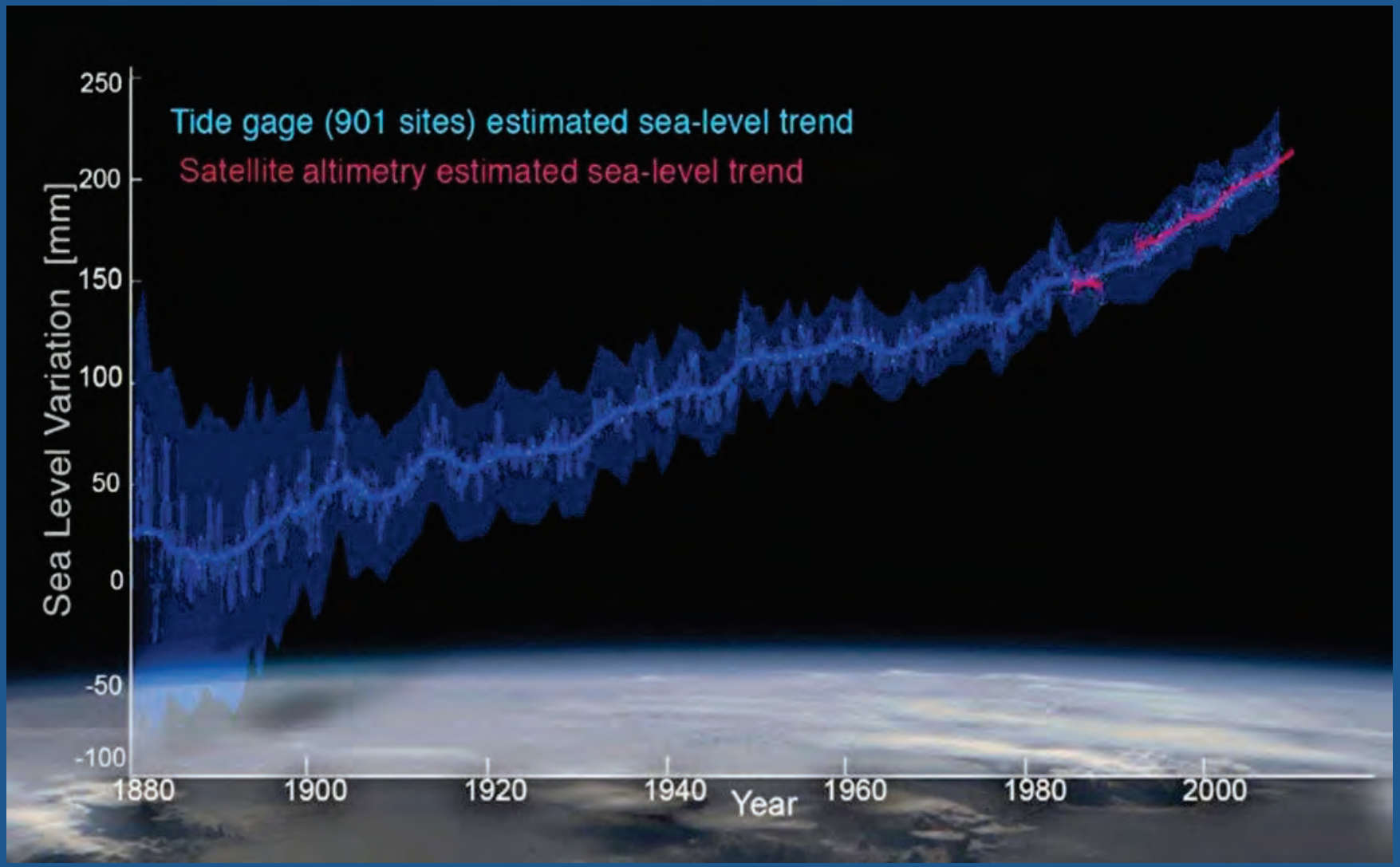
Refining Goals

- From Mitigation to Adaptation to Incorporation
  - A City responsibility

Keeping the Issue Alive

- Climate change and sea level rise policies
- Council-supported work plans
- Annual community updates
- Emergency response
- Capital and operations funding

How Much… How Soon?

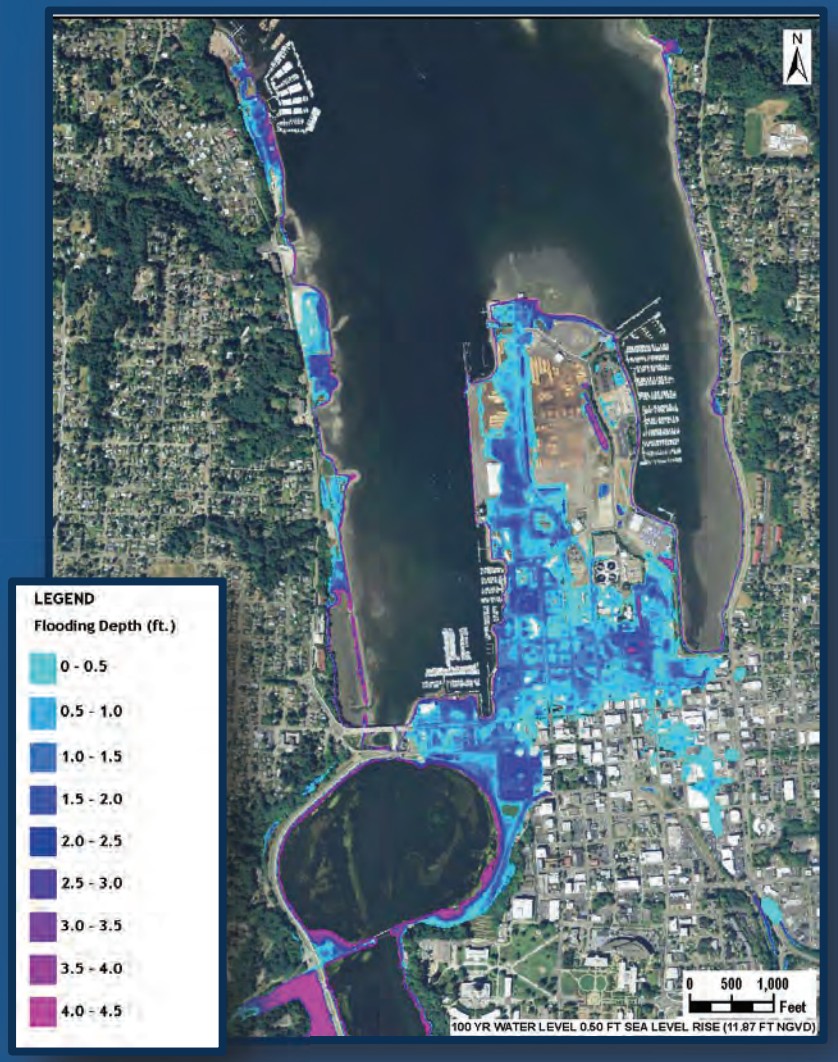


Annual Work Plans

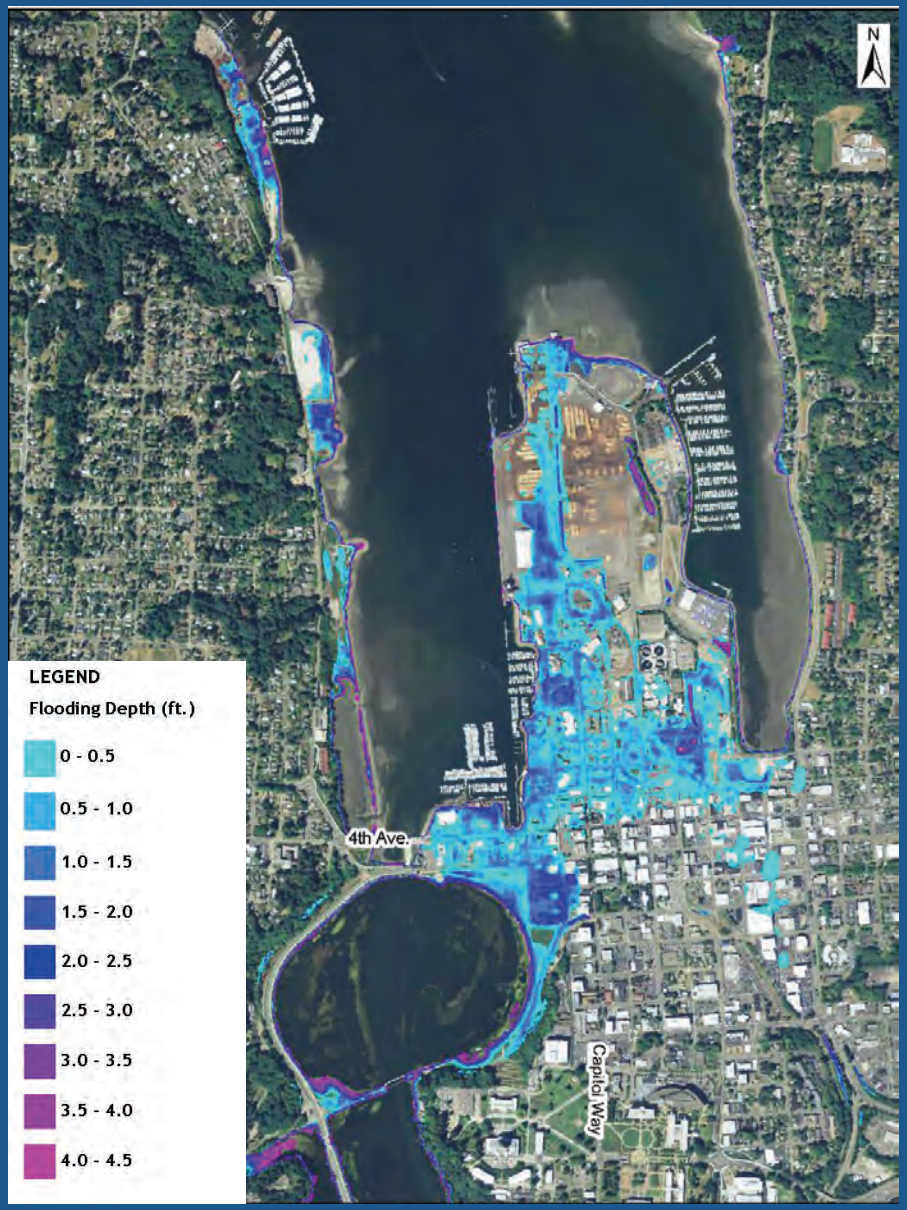
- Understand downtown land and building elevations
- Complete an engineering analysis of potential responses to 50 inches of sea rise
- Improve emergency flood response procedures
- Plan for longer-term needs and options

2011 Analysis of Budd Inlet Flood Dynamics

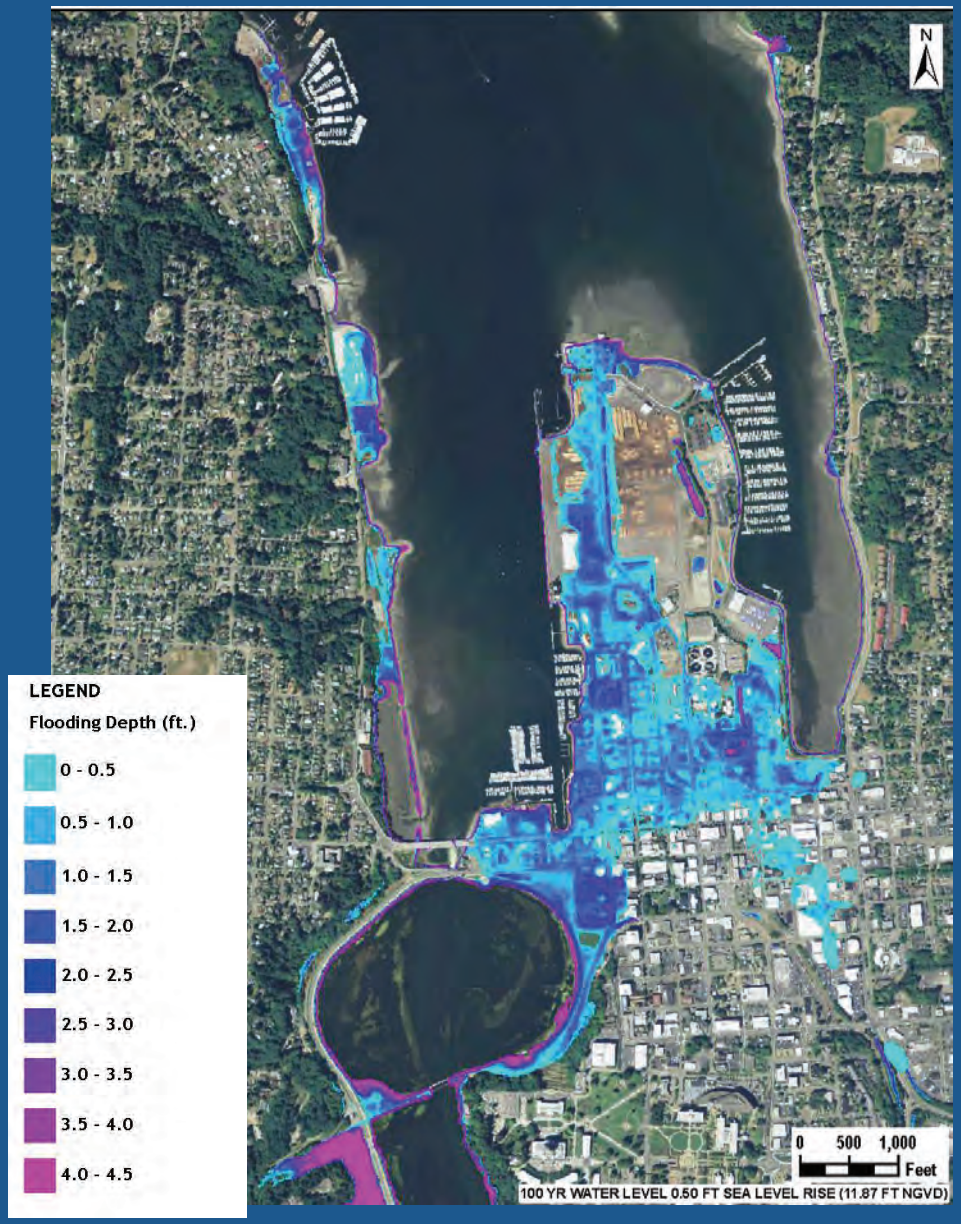
- ***Tides:*** Extreme events, storm surge, historical events
- ***Wind and waves:*** Water levels, shoreline interactions and overtopping
- Rainfall and runoff
- Piped Indian/Moxlie Creek
- Deschutes River/Capitol Lake
- Sea level rise



Existing 100 Year Tide Event



100 Year Tide Event with 0.5 Feet Sea Rise



Linking Water Elevations to Downtown Landscape

- Land elevation
- Land use
- Essential services - emergency transportation corridors, City Hall, pump stations
- Stormwater and wastewater systems

Technical Summary

- Higher existing risks than anticipated
- Improve emergency responses now
- Plan for construction in 10 to 15 years
- Not surprisingly, costs are high
- Understand options

Updating City Policies

- Use best available information
- Evaluate different scenarios for sea rise
- Develop a progression of adaption and responses
- Develop costs for regulatory, engineering and environmental solutions.
- Maintain public control of downtown shorelines
- Partners with other government and stakeholders
- Engage the community

Incorporating Climate Change Response

- Relate global issues to our community
- Incorporate into existing City responsibilities
- Take managable steps
- Accept the uncertainties

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